

Part 2 -- Remarks

This Response is responsive to the office action mailed December 20, 2004. In that office action, correction of two paragraphs of the specification was requested; claims 20-27 were renumbered as 19-26, respectively; claims 1-8, 12-17 and 25 were rejected under 35 USC 103(a) as obvious from prior art allegedly admitted by the applicant (referred to as APA) in view of U.S. patent 6,493,958 to Tadin; and claims 9-11, 18-24 and 26 were noted as allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims.

Reconsideration of the objections and rejections is respectfully requested in view of these remarks. Claims 1-26 are pending.

Requested Specification Amendments

The two paragraphs noted in the office action as allegedly requiring amendment have been amended previously in the manner requested. The amendments were proposed in the Preliminary Amendment filed on March 15, 2004. If the PTO prosecution history does not contain a copy of this Preliminary Amendment, the undersigned will supply a copy along with proof that it was filed at the PTO.

Claim Renumbering

The presentation of the pending claims in Part 1 hereof reflects the renumbering of the claims previously numbered 20-27, of the claims now numbered 19-26, respectively. The Examiner's detection of the mistakenly omitted claim number 19 and the correction of this oversight is appreciated.

Allowable Claims

The determination that claims 9-11, 18-24 and 26 define patentable subject matter is noted. However, before amending these claims into independent form, it is requested that the Examiner consider the following comments regarding the obviousness rejection. It is believed that the obviousness rejection of claims 1-8, 10-17 and 25 is inappropriate and should be withdrawn. If the Examiner concurs and withdraws the obviousness rejection, claims 9-11, 18-24 and 26 should be patentable

in conjunction with the other patentable claims. If the Examiner does not withdraw the obviousness rejection, claims 9-11, 18-24 and 26 will then be amended into allowable form.

Obviousness Rejection

Reconsideration of the obviousness rejection of claims 1-8, 12-17 and 25 based on the APA and Tadin is respectfully requested.

Claim 1, and dependent claims 2-26, recite a method of evaluating clearance between the support contour of a seat cushion and an adjacent anatomical portion of a person sitting on the seat cushion. Thus, the pending claims call for evaluating a space or clearance between a seat contour and the anatomy of the person seated on the seat cushion.

Claim 1 requires, in the manner set forth and among other things, (a) a seat cushion, (b) seating a person on the seat cushion, (c) a deformable clearance measurement device located between the seated person's anatomy and a support contour of the seat cushion; and (d) evaluating the clearance by determining the extent to which the clearance measurement device was deformed.

This combination of features is not present in the APA and Tadin, and this combination of features is not suggested by the APA or Tadin. There is no tangible evidence in the APA or Tadin to prove that it is within the ordinary skill of one conversant with the seat cushion art to combine the APA and Tadin in the manner stated in the obviousness rejection. Only the present disclosure leads to any connection between the APA and Tadin, but the use of hindsight gained from the present application to combine references in an obviousness rejection is not permitted. Accordingly, the obviousness rejection is believed to be improper and should be withdrawn.

The office action cites two instances of alleged APA. One instance relates to inserting fingers between the support contour of the seat cushion and the anatomy of the individual seated on the seat cushion. As stated in the application, the finger

assertion method does not provide an objective evaluation. Furthermore, certain anatomical areas, such as those directly under the user, cannot be felt at all because this location is too far underneath the seated individual to be reached. Lastly, and perhaps most importantly, the finger insertion method requires the seated individual to move out of the normal seated position on the support contour to make room for the fingers, and that abnormal movement is enough to disrupt the clearance between the anatomy and the support contour to make any finger-sensing evaluation essentially meaningless. See page 3, line 28 to page 4, line 6 and page 18, lines 17-20 of the application.

Moreover, the inserted finger is not deformable. Even if the flesh on the finger does tend to compress, the extent of that compression cannot be evaluated because once the finger is removed the flesh returns to its normal position. Further still, the relatively small contact area of the inserted finger is more likely to depress the anatomical tissue of the seated user or is likely to depress the support contour of the seat cushion, making the evaluation of the clearance impossible.

The other instance of alleged APA involves the use of a pressure mapping device. A pressure mapping device determines pressure, not clearance. An increased pressure may be an indication of a possibility for pressure ulcers to develop, but that is not an indication of clearance. An indication of a lack of pressure is also not an indication of clearance. Pressure mapping devices are not effective in measuring the extent or degree of clearance. See page 4, lines 26-31 and page 5, lines 13-18 of the application.

Indeed, it is not common in the field of evaluating the support contour of a seat cushion to measure clearance. The most common approach is to attempt to distribute the weight of the user substantially uniformly over the entire support contour. The uniform pressure is theorized to reduce the incidence of pressure ulcers by avoiding localized high-pressure points. See page 3, lines 3-8 of the application. It is for this reason that the pressure mapping device is used. A new approach to fitting support

contours to the anatomical portion of a seat cushion user involves creating relief areas which are intended to separate the support contour from the anatomy of the seated user. Such an approach is described in the Applicant's concurrently filed application Serial No. 10/628,680, and is more generally described in the present application beginning at page 9, line 15 through page 12, line 12. Thus, evaluating the clearance with respect to selected portions of a support contour of a seat cushion was not a widely recognized procedure at the time this application was filed.

The Tadin reference has nothing whatsoever to do with evaluating the clearance between a support contour of a seat cushion and the part of the anatomy of a user which contacts that support contour. Tadin describes the use of crushable foam to obtain an imprint of a user's foot for the purpose of making conforming, custom insoles for shoes. Tadin's idea is to more precisely capture the exact imprint of a user's foot in the position that the user's foot will normally occupy in the shoes. See column 1, lines 13-14, column 1, lines 27-34, column 2, lines 54-63, column 5, lines 17-33, column 5, lines 42-43, column 6, lines 50-53, and column 7, lines 1-9. Tadin more accurately captures the shape of the foot by adjusting the crush density of the foam at different locations where greater pressure from the foot is available and by orienting the support which holds the crushable foam to reflect the shape of the shoes.

Tadin teaches nothing about evaluating clearance. Everything in Tadin is about making sure that there is no clearance so that the shape of the user's foot can be accurately determined.

It is therefore apparent that neither the alleged APA nor Tadin describes a deformable clearance measurement device. Fingers are not deformable. Pressure mapping devices are not deformable. There is nothing in Tadin between the foot and the foam to deform. It is also apparent that there is nothing in the alleged APA or Tadin which permits evaluation of the extent of deformation of the clearance measurement device. Even if the flesh on the fingers does deform, it returns to its undeformed position when the fingers are removed from between the support contour and the user's

anatomy. If the pressure mapping device deforms, it also returns to its original undeformed condition when removed. The presence or absence of pressure is not an evaluation of deformation or clearance. Tadin does not describe a deformable measurement device. The Tadin foam deforms but only to obtain an accurate imprint of the entire foot, not for evaluating clearance at a selected location.

Accordingly, the cited references, either singularly or in combination, do not disclose the use of a deformable clearance measurement device which is positioned between a support contour of the seat cushion and the anatomy of a person seated on the support contour. The cited references, either singularly or in combination, also fail to disclose evaluating the extent of the clearance by evaluating the extent of deformation of a clearance measurement device. Combining the references, even if such a combination was not based on hindsight, therefore fails to meet the limitations of claims 1-26.

There is no evidence that a person having ordinary skill in the art would combine Tadin with the alleged APA. It is the antithesis of Tadin to deal with clearances. Tadin's entire focus is on obtaining a precise and exact imprint, not evaluating clearances which depart from a precise contour of the anatomy.

Only the present application describes a relationship between crushable foam and its use to evaluate a clearance between a pre-existing support contour of a seat cushion and the user's anatomy which contacts the support contour. The problems, motivations, inspirations and suggestions of obtaining a precise imprint of a user's foot to create an exact, precisely fitting, custom insole for a shoe has nothing whatsoever to do with evaluating the extent of clearance between a seat cushion support contour and the anatomy of a user seated on that cushion. This is particularly so since the most common approach in evaluating seat cushions is to obtain uniform pressure distribution, not to separate the seat cushion support contour from the anatomy with a clearance.

The obviousness rejection asserts that, because Tadin discloses crushable foam, "it would have been obvious . . . to replace the clearance measurement device of the APA with the contour measuring apparatus having a deformable material as taught by Tadin in order to provide a means for determining a contour which is easily deformed, has little or no memory, and retains the deformed shape indefinitely, therefore increasing the accuracy of the measurement." As discussed above, this argument is not supported by the evidence. There is nothing in the APA or Tadin which describes or suggests a deformable clearance measurement device. There is nothing in the APA or Tadin to suggest that Tadin can replace fingers or a pressure mapping device. Indeed there is nothing in Tadin to suggest its use to evaluate any type of clearance. To argue that Tadin could be used as a replacement for the APA is a naked assertion for which there exists no supporting evidence from the APA and Tadin.

For these and other reasons, it is believed that the obviousness rejection of claim 1 based on the APA and Tadin is improper and should be withdrawn.

Claims 2-8 depend on claim 1 and require, in the manner specifically set forth therein, that the clearance measurement device include impression foam having a crushable characteristic, and that the clearance is evaluated by the extent of collapse of the impression foam. The importance of the crushable characteristic of the foam is that it must crush without deforming either the anatomy of the seated individual or the support contour of the seat cushion. If the foam is crushed with significant resistance, deformation of the anatomy or the support contour would occur and no reliable evaluation of the clearance could be obtained. The other important point is that the pelvic area supplies substantially less pressure to deform the clearance measurement device than would be applied from the foot of an individual. Pressure is force divided by area. The area of the foot is considerably smaller than the pelvic area of a seated individual, which means that foam can be more easily crushed by standing on it than would be the case from the larger surface of the pelvic area. The foam used in the present invention must crush with considerably less pressure than would be required to

crush foam by standing on it, as in Tadin, if the clearance evaluation is to be meaningful. The importance of the relatively low crushing pressure in the present invention is described more completely in the application at page 14, line 14 to page 16, line 22, and particularly at page 15, line 26 to page 16, line 6. Nothing in Tadin describes these considerations. Claims 4-8 recite some of the foam's specific characteristics.

The rejection takes the position that the optimum range involves only routine skill. This position may be accurate for some types of inventions, but it is certainly not accurate for the present and for many other types of inventions. Discovering the crush characteristics of the foam makes the present invention fully functional.

Claims 12-17 require, in the manner set forth, that the clearance measurement device include a piece of putty-like substance having a malleable characteristic which indents, and that the clearance is evaluated by determining the extent of the indentation of the malleable putty-like substance. Fingers, pressure pants and crushable foam are not a putty-like substance having a malleable characteristic.

Conclusion


The APA and Tadin, singularly or in combination, do not disclose or suggest the recited subject matter of pending claims, for the reasons set forth above and others. The APA and Tadin have been combined based on hindsight gained from the present application. Hindsight is inappropriate in an obviousness rejection. Accordingly, it is respectfully requested that the obviousness rejection based on the APA and Tadin be withdrawn, and the pending claims 1-26 allowed.

Serial No. 10/628,890

The Examiner is requested to contact the undersigned by telephone to discuss any issues which may inhibit the immediate allowance of the application.

Respectfully submitted,

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